

News

Animated Science



Prof (Brig) Aamir Ijaz
 HOD Chemical Pathology and Endocrinology/
 Prof of Pathology
 AFIP Rawalpindi, Pakistan
 Email: ijaz_aamir@hotmail.com

Here is a very unique way of presenting scientific concepts. We have given life to our favourite substances and molecules. It may help you remembering these ideas besides entertainment

AST –The Cheater: Heart expelled AST



saying “*go away cheater - you are also loyal to the liver*” (AST has been removed from the list of cardiac markers because of its non-specificity). To add to its insult liver also gives

preference to ALT on AST because of its relation with heart. So poor AST is out of heart and liver, on the accusation of cheating. Do we have a lesson here to learn?

HDL and CETP –The Hero and The Traitor:



‘H’ for hero and ‘H’ for HDL, our hero has a lot of potentials and plays multiple roles – just like Hercules again with an ‘H’. He has a lot of enemies to fight with

alone e.g. LDL, VLDL, IDL and Lipoprotein (a). He very successfully fights but unfortunately there is also a traitor in his

army and it is Cholesterol Ester Transfer Protein (CETP). When the hero (HDL) is taking cholesterol away from periphery to the liver, the traitor (CETP) smuggles some of its cholesterol to VLDL, which becomes a very dangerous particle i.e. small dense

LDL (SDL). In return VLDL gives some cash (triglycerides) to CETP but this money (triglycerides) does not stay long with CETP and is taken up by the liver by the action of hepatic lipase. So at the end of the day the traitor is left with nothing and vanishes.

Hepcidin – The Iron Master:



Hepcidin, holding a stick in his hand, has been assigned the duty of controlling the porters of iron (Ferroportin). On a normal day (with normal Iron Levels) the iron

master is sleeping in his chamber and the porters keep on doing their job of transporting iron from inside the intestinal lumen to the enterocytes (besides other sites). When body has enough iron stock and does not require more iron from intestine, our iron master

(hepcidin) gets a telephone call (from liver) to get up and stop his porters(ferroportin). He takes his stick and put all these porters in a cellar (internalization). In people with haemachromatosis, the iron master is off-sick and there is no body to control the porters, with the result that iron is continuously deposited in the body.

TSH -The Worried Mother:A worried



mother (TSH) brings her two sick children (T3 and T4) to the child specialist. Now whom should the doctor ask to get details? Mother of course, as children are too innocent to tell about their

illness. So if you want to know something about thyroid disease (dysfunction) asks from mother (TSH) and not from the children (T3 and T4). The anxiety of mother cannot be compared with that of children. Do you agree?



Fluoride -the RBC Controller :In a sample tube Sodium (or Potassium) fluoride addresses the RBCs “ *Look gentleman this glucose is not for you; so please don`t eat it. Its patient`s glucose and is sacred for us*”. In the tubes without fluoride, there is no body to control RBCs and they party with glucoseas the main course!!

Saliva test could indicate future health risk

Low levels of antibodies in saliva appear to indicate a greater risk of mortality and could be an early warning sign, according to research published in *PLOS ONE*

"There are a number of factors that can affect how well we produce antibodies and maintain their levels. There are some that we have no control over, such as age, heritability or illness, but our general state of health can also affect their levels; **stress**, diet, exercise, alcohol and smoking can all influence those levels."- --[Dr. Anna Phillips, from the University of Birmingham](#)